

TITLE: ISOLATION, IDENTIFICATION, AND ANTIMICROBIAL SUSCEPTIBILITY PROFILE OF NEGATIVE COAGULASE *Staphylococcus* spp. IN SOFT CHEESE

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ABSTRACT:

Brazil is a major consumer and producer of dairy products, such as soft cheese. Although a large portion of these products is technology adequate, there are still persistent problems in milk production, which reduces the cheese quality and makes it unsuitable for consumption. Many species of microorganisms may contaminate the milk during the cheese manufacture and handling, representing a potential risk for public health. Among these, especially Gram-positive cocci such as *Staphylococcus* spp. have been frequently found in this kind of food. Antibiotic resistance is widely spreading due an uncontrolled utilization of antimicrobial in bovine mastitis. Furthermore, horizontal transfer of antimicrobial resistance genes in foodstuffs such as cheese may be a particular concern since the exchange of mobile DNA can occur between pathogenic or nonpathogenic microorganisms of the same or different species during the food processing. In this study, samples from soft cheese were purchased from different commercial establishments in Governador Valadares region, Minas Gerais State, Brazil. A total of 24 bacterial isolates were recovered from 10 cheese samples belonging to five batches with two different trademarks. The bacterial counts ranged from 10^3 to 10^6 CFU g⁻¹. All the strains were isolated and identified as negative coagulase *Staphylococcus* spp.. In addition, all of those strains were tested for drugs susceptibility by Kirby-Bauer test using penicillin, oxacillin, gentamycin, tetracycline, and cefoxitin, wherein % (16/24) were penicillin resistant, 8,33% (3/24) were tetracycline resistant, and for gentamycin, oxacillin, and cefoxitin no resistance phenomenon was observed. The occurrence of antimicrobial resistance in pathogenic and opportunistic bacteria is of special concern, especially in relation to the potential transmission of genetic determinants to human pathogens through the food chain. In addition, it is important to highlight the potential public health risks that are related to the consumption of *Staphylococci*-contaminated soft cheese

Keywords: *Staphylococcus*, Soft cheese, Susceptibility profile.